



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,402	02/08/2002	Klein A. Rodriques	2002.ALC	4789
35157	7590	10/24/2003	EXAMINER	
NATIONAL STARCH AND CHEMICAL COMPANY			ASINOVSKY, OLGA	
P.O. BOX 6500			ART UNIT	PAPER NUMBER
BRIDGEWATER, NJ 08807-3300			1711	

DATE MAILED: 10/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/072,402	RODRIQUES ET AL.	
	Examiner	Art Unit	
	Olga Asinovsky	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-25 is/are pending in the application.
- 4a) Of the above claim(s) 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-13 and 15-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Prosecution Application

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/03/032 has been entered.

The cancellation of claims 1-6 is noted.

Claim 14 is withdrawn from consideration. The statement for claim 14 is incorporated here from the office action mailed on 06/26/03, page 2.

"Claim 14 as amended directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claim 14, drawn to a detergent or cleaning composition, classified in class 510, subclass 310, 320, 392, 530 and class 424, subclass 94.1, 94.61. A graft polymer in claim 1 is a composition that can be used by itself as a polymer dispersant. The inventions of claim 1 and claim 14 are deemed patentably distinct each from the other as an intermediate-final product relationship. In the instant case, the intermediate product=graft polymer in claim 1 is deemed to be useful as a polymer dispersant and the inventions of claim 1 and claim 14 are deemed patentably distinct since there is nothing on this record to show them to be obvious variants.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 14 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03."

Applicants present new independent claim 21 to define a hydrophobic backbone moiety selected from the group consisting of natural polymers, linear hydrocarbons, branched hydrocarbons and non-polymeric surfactants. The hydrophobic moiety is recited under Markush groups.

New search has been made for a backbone polymer having a hydrophobic moiety in claim 21.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7-13 and 15-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsaur et al U.S. Patent 5,385,959.

Independent claim 21 discloses a graft copolymer comprising: a hydrophobic backbone moiety selected from the group consisting of natural polymers, linear hydrocarbons, branched hydrocarbons and non-polymeric surfactants; and an amine or amide moiety

Art Unit: 1711

grafted onto the backbone moiety, the amine or amide moiety selected from the group consisting of methacrylates, maleates, methacrylamides, vinyl esters, methallylics and itaconates having an amine or amide functionality, wherein the graft copolymer is pH triggerable.

Tsaur discloses a composite polymer comprising a hydrophobic polymer core particle and a hydrophilic polymer attached to the hydrophobic core via formation of high grafted composite particles, column 3, lines 56-63 and column 10, lines 27-67. The core/shell structure of the high grafted composite particles is readable in applicants' claimed graft copolymer. The monomer or mixture of monomers used for forming the hydrophobic core particles of the composite polymer includes any emulsion polymerizable monomer that contains ethylenically unsaturated group such as styrene, vinylacetate, (meth)acrylamide, column 12, lines 4-11. The hydrophobic monomer such as styrene is readable in applicants' claimed hydrocarbons for forming a hydrophobic backbone segment, for the present claims. The hydrophilic polymer includes water soluble polymers such as polyvinyl alcohol and its copolymers with vinyl acetate; polyvinyl pyrrolidone and its copolymers with styrene and vinyl acetate; and polyacrylamide and its various modification, column 10, lines 64-68, column 11, lines 26-30. The hydrophobic moiety can include butylenes oxide and/or propylene oxide, column 19, lines 12-13. The monomeric units comprising both the hydrophilic backbone and hydrophobic side chain may be substituted with groups such as amino, amine and amide, column 19, lines 27-28, for the present claims. Therefore, a hydrophobic core can include functional group such as amine or amide for the present claim 7. The ratio

Art Unit: 1711

of hydrophobic polymer core to hydrophilic water-soluble polymer can be in the range of 2:8, column 12, lines 17-18, for the present claim 11. The composition contains one or more surface active agents such as surfactant(s), column 4, lines 33-40. A triethoxy C12 to C15 alcohol sulfate having the formula at column 5, line 55 is readable in applicants' claimed non-polymeric surfactant in claim 21. Other surfactant such as nonionic surfactant or amphoteric surfactant, column 6, lines 45-57 and column 8, lines 36-47 is also readable in applicants' claimed non-polymeric surfactant in claim 21. The selection of non-polymeric surfactant as being a hydrophobic backbone for making a graft copolymer is not clear in the present claim 21. However, surfactants in Tsaur's invention are readable in the present claims 21 and 24. The pH level of the liquid detergent can be in the range from 6 to 10, column 20, line 2. The desired pH level that is triggerable in the present claim is readable in Tsaur since desirable pH can be obtained by adding monoethanolamine/triethanolamine buffer system, column 20, lines 22-27.

It would have been obvious to one of ordinary skill in the art to use a composite polymer having a hydrophobic polymer core and a hydrophilic shell in Tsaur wherein hydrophobic moieties and hydrophilic moieties are selected such that a hydrophobic moiety for forming a backbone includes at least one hydrocarbon unit such as styrene and a hydrophilic moiety includes polyacrylamide.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Asinovsky whose telephone number is 703-308-0041. The examiner can normally be reached on 9:00 to 5:30 pm.

Application/Control Number: 10/072,402

Page 6

Art Unit: 1711

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 703-308-2462. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

O.A.
O.A.
October 17, 2003

Olga Asinovsky
Examiner
Art Unit 1711



James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700